

## Prostaglandin D2 Receptor (PTGDR) ACTOne™ Stable Cell Line

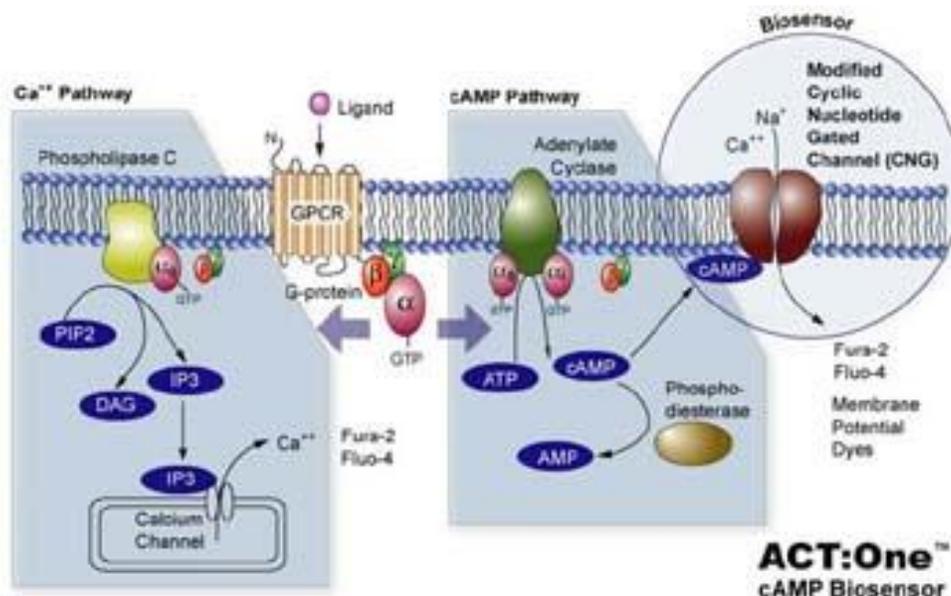
CATALOG NUMBER: CL-01-PTGDR

### Introduction

PTGDR is a member of the guanine nucleotide-binding protein (G protein)-coupled receptor (GPCR) superfamily. The receptors are seven-pass transmembrane proteins that respond to extracellular cues and activate intracellular signal transduction pathways. This protein is reported to be a receptor for prostaglandin D<sub>2</sub>, which is a mediator of allergic inflammation and allergic airway inflammation in asthma.

### Description

Human PTGDR ACTOne™ is a HEK-293 CNG cell line that expresses recombinant human PTGDR. HEK-293 CNG cells express a modified CNG (Cyclic Nucleotide Gated) channel that opens in response to elevated intracellular cAMP levels and consequently result in ion flux (often detectable by calcium-responsive dye, Cat# CA-C155) and cell membrane depolarization which can be easily measured with fluorescent Membrane Potential Dye (Cat# CA-M165). The assay allows both end-point and kinetic measurement of intracellular cAMP changes with a FLIPR, or a fluorescence microplate reader.



### Parental Cells

HEK-293 CNG cells (originally developed by BD Biosciences by introducing CNG in HEK-293 cells) (Cat# CL-03-PC20)

### Gene/Enzyme Introduced

PTGDR (Genbank Accession No. NP\_000944.1)

### Applications

- cAMP dependent human PTGDR cell based assay
- cell based high-throughput screening of human PTGDR inhibitors

### Functional Test

- this cell line has been tested positive for PTGDR specific response



- surviving rate: More than 2.5 million/vial on the second day after thawing
- the receptor specific activity is stable for 10 weeks continuous passage

## Mycoplasma Contamination Test

This lot of cells has been tested and found to be free of mycoplasma contamination.

## Content

- Stable cells: 1 mL (1 x 10<sup>6</sup> cells/mL in 70% DMEM, 20% FBS, 10% DMSO)

## Growth Properties

Adherent

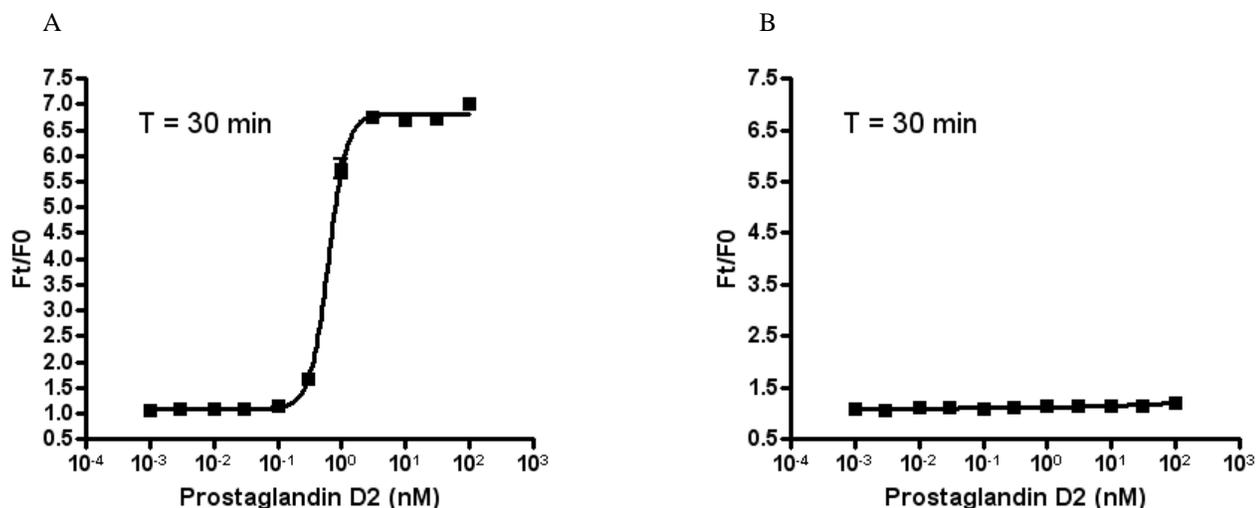
## Cell Culture Medium

- Growth medium: DMEM-10% FBS supplemented with 250 µg/ml G418, 1 µg/ml Puromycin
- Freezing medium: 10% DMSO, 90% complete cell culture medium

## Storage

Remove the frozen cells from the dry ice packaging and immediately place the cells at a temperature below -130°C, preferably in liquid nitrogen vapor, until ready for use.

## Data Analysis



**Figure 1. Response of ACTOne™ SCTR cell line & parental cell line to prostaglandin D2.**

ACTOne™ SCTR cells and parental cells (Cat# CL-03-PC20) were plated overnight in 20 µl culture medium on a 384 well Biocoat plate. The next day, cells were dye-loaded with 20 µl/well of 1x Dye-loading solution (membrane potential dye kit, Cat# CA-M165). After 2 hours of incubation at room temperature, two readings were obtained prior to and 30 min after the addition of prostaglandin D2. Ratios of the two readings (F/F0) are plotted in the figure.

- Dose response curve of prostaglandin D2 in ACTOne™ SCTR cell line. EC50 = 0.62 pM in the presence of PDE inhibitor Ro 20-1724.**
- Parental cells do not respond to prostaglandin D2.**

## Notice to Purchaser

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